

MAS Context
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A red diamond-shaped flag is taped to a dark, textured wall. The word "Ordinary" is written in a large, black, cursive script across the center of the flag. The flag is held in place by several pieces of white tape. To the right of the flag, there is a blue vertical line and a series of white horizontal and vertical lines forming a grid-like pattern. Below the dark wall is a brick wall, and at the very bottom is a concrete base.

House of the Infinite by Alberto Campo Baeza. Cádiz, 2014
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The Brain is Square

Essay by Alberto Campo Baeza

There are still some triangles to be found in my studio. These are used not so much for drawing, which is done in Auto-CAD, but for the many scale models that we do ourselves. When I was a child my mother used to bake the most magnificent homemade tarts. And so it is in my studio today, that I make the tarts, the scale-models, and my team makes them even better than me. Our models are always homemade.

We use triangles to control the right angle, which is a basic ingredient of architecture: the angle at which the vertical of gravity and the horizontal of the earth plane always meet. It is not by chance that the right angle has been the most used geometrical mechanism in the history of architecture: in cross-section on account of gravity, and in plan on grounds of order.

But before I proceed to say anything further about the right angle, I feel I should at this stage confess the reason I have decided to address this subject. I have read in the press that a team of American scientists based at Massachusetts General Hospital has discovered that the brain is made up of parallel and perpendicular neuronal fibers that cross paths at right angles.¹ In other words, that the brain is square.

These latest findings from researchers using the most advanced MRI technology suggest that the physical connections of the human brain, rather than being a tangle of wires as previously believed, are arranged in an astonishingly simple crisscross pattern. It would appear therefore that the wiring of the brain is geometrically arranged in a grid structure rather like the checkerboard streets of Manhattan.

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Or like the classic layout of a circuit board. It is also true to say that naturally enough the ancient tenet that the shortest distance between two points is the straight line remains true, and was not something discovered by our American scientists.

I have always been accused of obstinately insisting on and using right angles, both horizontal and vertical, while other architects are leaning, twisting, bending, curving, and folding, so you can imagine how this amazing "new" discovery was like music to my ears. With architects everywhere rolling out acute and obtuse angles, having read the news I quietly smiled to myself in my own straight-lined, rectangular, square corner. And, you know, a corner is usually just that, a straight-lined rectangular trihedron. Nevertheless many of today's self-styled theorists prescribe angles of varying types, in fact anything but right angles, as indispensable elements allegedly lending originality and modernity to the architecture of today.

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You will perhaps comprehend therefore my sheer delight on learning that the brain, which is the seat, the cradle of reason, is equipped with such an orderly, grid structure of connections, arranged orthogonally like Ikea's Expedit shelving units, if I dare make such a comparison.

I still remember how, having commenced my studies at Madrid's School of Architecture as an undergraduate under Alejandro de la Sota, an architect who followed in the footsteps of Tessenow and Mies, the draft designs I presented of my first project the following year were totally orthogonal. They were so imbued with German orthogonality that my new tutors were not impressed: "You have to be more expressive, less bland," they told me. With remarkable docility I toiled diligently for the entire weekend and the following Monday I presented them with a new project full of curves and turns and expressive gestures,



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heavily stamped with influences of Gaudi and Wright. They were delightful drawings that were warmly and publicly extolled by my teachers. Indeed, so warm and enthusiastic was their praise that, whether out of loyalty to Sota and Tessenow or simply following my own willful and contradictory nature, I decided on the spot to revert to my lost orthogonal designs and my right angles. As a result my work failed to receive the highest qualification from those formerly enthusiastic examiners. But, let me tell you something: that incident taught me a lot. I elected to swim against the tide for my own beliefs, as I have always done in every aspect of my life. And I continue to do so to this day, despite what others may think.

While attending the Aachen Congress on Mies van der Rohe,² apart from visiting Rudolf Schwarz's uncompromising stark church and Charlemagne's rich Palatine chapel,

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Eduardo Souto de Moura and I devoted much time to speaking about architecture. Souto, as he sipped away at his Riesling, told me with a smile that I was one of the few who had remained faithful to the straight line and the right angle. And I nodded happily in agreement on hearing such a comment from an architect of his stature.

In my latest project, a house by the sea in Zahara in the south of Spain that we have just begun to build, the right angles are so straight and upright and the box is such a straight-forward box that in the end it will be a large box built in Roman travertine integrated into the sand of the beach. Its roof, a radical flat horizontal plane, is the main protagonist of the space. Like a Temenos where the gods will mingle with mortals. Like something Tessenow himself would have designed. More Tessenow than Mies.



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Because there, on that exquisitely beautiful beach, gravity is the same gravity that it always has been, that of Newton's apples, which still fall vertically, straight down, always perpendicular to the ground.

And there too in that little spot of paradise, the horizon is still horizontal. As horizontal as straight is the horizon defined by the Atlantic Ocean right in front of us.

That very same horizontal plane that Tessenow or Mies would build if they were to raise their heads not only in recognition of the work of the team of leading American scientists in discovering the physiological orthogonal arrangement of the brain, but also to corroborate something that is for them and for me so elementary as orthogonality in architecture. Because the shortest distance between two points is still the straight line. And because apples still fall vertically, orthogonally to the horizontal plane of the ground.

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1 Alicia Rivera, "El cerebro, elegantemente simple," *El País*, April 10, 2012, http://sociedad.elpais.com/sociedad/2012/04/10/actualidad/1334086304_663569.html.

2 "Rethinking Mies: Positions on Modernity in the 21st Century Symposium" (international symposium, RWTH Aachen University Department of Theory of Architecture, October 25-27, 2011), <http://arch.rwth-aachen.de/go/id/clvd/file/2011-08-24/lidx/1>.

